

retrieving audio data and an indicia image associated with a song being performed by the Karaoke performer, the indicia image comprising images of words of the song embedded in a background image in the video data;

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downscaling and repositioning the indicia image and removing a portion of the background image from the indicia image to form a modified indicia image;

compositing the modified indicia image with the image of the Karaoke performer to form an output video image for display on a video display.

19. (Amended) A method as in claim 18, wherein the step of removing removes the background image of the indicia image completely.

REMARKS

The Office Action to which this Amendment is responsive has been carefully considered along with the references cited therein. In view of the amended claims shown above the following remarks, it is believed that the application is now in condition for allowance.

The present invention is directed to a novel way to integrate the video image of a Karaoke performer and images of the words of a song in a composite video image such that both the performer's image and the words can be clearly and easily seen on a video screen. One particular aspect addressed by the invention is the removal of the background from the images of the words of the song. In some Karaoke video sources, such as those implementing the CD+G format, the individual words of a song are presented in the Karaoke video signal as images of the words embedded in a background image. In accordance with the invention, the background image is partially or completely removed from the Karaoke video signal. The word images with the background partially or completely removed can be downsized and repositioned to provide a modified indicia image for compositing with the video image of the performer. The combination of

the removal of the background image associated with the word images and the downscaling and relocation allows both the words and the performer to be clearly viewable on a vide display screen.

To more particularly point out and distinctively claim the invention, applicants have amended each of the independent claims, namely claims 1, 9, 12, and 18, to include the limitation of removing a portion of the background image from the indicia image in the video signal of the Karaoke media. In connection with this change, some of the dependent claims are also modified, and dependent claim 2 is canceled.

The Office Action rejected all the originally pending claims based mainly on a European patent application document EP 0782338A2 of Amtex Corporation (hereinafter the “Amtex document”). Specifically, claims 1-6, 8-13, 16 and 18-20 were rejected under 35 U.S.C. §103(a) as being unpatentable over the Amtex document. Claims 7, 14, 15, and 17 under 35 U.S.C. §103(a) were rejected as being unpatentable over the Amtex document in view of U.S. Patent 5,506,690 to Kim. With respect to independent claims 1, 9, 12 and 18, the Office Action asserted that the Amtex document teaches all the features of the claims except those directed towards downscaling the indicia image, and that the Amtex document teaches the downscaling feature with regards to the video image control means. The Office Action further asserted that it would have been obvious to one of ordinary skill in the art to modify the indicia control means as the video image control means taught by Amtex to reach the claimed invention.

Applicants submit that the claimed invention as recited in the amended independent claims should be allowable over the Amtex document. At the outset, it should be noted that even though the Amtex system and the system of the present invention are both Karaoke systems, they are based on different Karaoke data input implementations. As a result, the present invention addresses a problem that is of no concern in the Amtex system. Particularly, the present invention assumes a Karaoke format, such as the CD+G format, in which the Karaoke video signal presents the words of a song as word images embedded in a background image that, if unaltered, will occupy a significant

portion of the screen. In accordance with the invention, the background image of the words presented in the Karaoke video signal is partially or completely removed, and the word images are downscaled and relocated to provide a modified indicia image, which is then composited with the video image of the Karaoke performer for display on a video screen.

In contrast, the system described in the Amtex document does not deal with this issue. There is no teaching or suggestion regarding removing the background image associated with the images of the words of a song provided by the Karaoke media. In no place in the Amtex document is it taught to alter or reduce the background image associated with the words of the song before compositing with the image or the Karaoke performer. Also, the Amtex document has no teaching or suggestion regarding resizing and relocating the modified image of the words, with the background image partially or completely removed, for compositing with the performer's image.

Since there is no teaching or suggestion in the Amtex document regarding the removal of the background in the indicia image of the words of the song or the further modification of the indicia image by downscaling and relocation, the Amtex document could not have rendered the claimed invention obvious either by itself or in combination with the other cited references. According, independent claims 1, 9, 12, and 18 as amended should be allowable. The other claims remaining in this application all depend from claims 1, 9, 12 and 18, respectively, and should therefore be also allowable.

Conclusion:

With the foregoing amendments, this application is considered in good and proper form for allowance, and the Examiner is respectfully requested to pass this application to issue.

If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,


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Appendix A
Claims 1, 3, 4, 9- 13, 15, 18, and 19 with Amendments

1. (Amended) A Karaoke system comprising:
a video image capturing device for capturing a video image of a Karaoke performer;
a Karaoke medium player for retrieving audio signals and an indicia image of a song from a Karaoke medium, said indicia image comprising images of words of the song embedded in a background image;
means for downscaling and repositioning the indicia image and removing a portion of the background image from the indicia image to form a modified indicia image;
means for compositing the modified [downscaled and repositioned] indicia image with the image of the Karaoke performer to provide an output video image for display on a video display.[:]
[a video monitor for displaying the composite output video image].
3. (Amended) A Karaoke system as in claim 1, wherein the means for compositing overlays the modified [downscaled and repositioned] indicia image on the image of the Karaoke performer.
4. (Amended) A Karaoke system as in claim 1, wherein the means for downscaling [compositing] removes the background image in the indicia image completely [a background of the downscaled and repositioned indicia image before overlaying the downscaled and repositioned indicia image on the image of the Karaoke performer].
9. (Amended) A Karaoke video image processing device comprising:

a first video input for receiving from a Karaoke medium player an indicia image associated with a song being played back, the indicia image comprising images of words of the song embedded in a background image;

a second video input for receiving a second video image from a second external video source;

an electronic circuit having components to downscale and reposition the indicia image and removing a portion of the background image from the indicia image to provide a modified indicia image and to composite the modified [downscaled and repositioned] indicia image with the second video image to form an output video image for display on a video display. [;]

[a video output for outputting the output video image for display.]

10. (Amended) A Karaoke video image processing device as in claim 9, wherein the electronic circuit overlays the modified [downscaled and repositioned] indicia image on the second video image to form the output video image.

11. (Amended) A Karaoke video image processing device as in claim 10, wherein the electronic circuit removes the background image in indicia image completely [a background of the downscaled and repositioned indicia image before overlaying the downscaled and repositioned indicia image on the second video image].

12. (Amended) A Karaoke medium player comprising:

a reader for retrieving data from a Karaoke medium, the data comprising audio data and an indicia image comprising images of words of a song embedded in a background image; an external video input for receiving an external video image;

a video processing circuit having components for downscaling and repositioning the indicia image and removing a portion of the background image in the indicia image to form a modified indicia image, and combining the modified [downscaled and repositioned] indicia image with the external video image to form an output video image for display on a video display;

[a video output for outputting the output video image;]

an audio processor for processing the audio data to provide an output audio signal; and
an audio output for outputting the output audio signal.

13. (Amended) A Karaoke medium player as in claim 12, wherein the video processing circuit removes the background image of the indicia image completely [a background of the downscaled and repositioned indicia image before compositing the downscaled and repositioned indicia image with the external video image].

15. (Amended) A Karaoke medium player as in claim 14, wherein the video processing circuit includes a CD+G decoder for compositing the modified [downsized and repositioned] indicia image with the external video image.

18. (Amended) A method of generating video images for Karaoke applications, comprising the steps of:

capturing a video image of a Karaoke performer;

retrieving audio data and an indicia image associated with a song being performed by the Karaoke performer, the indicia image comprising images of words of the song embedded in a background image in the video data;

downscaling and repositioning the indicia image and removing a portion of the background image from the indicia image to form a modified indicia image;

compositing the modified [downscaled and repositioned] indicia image with the image of the Karaoke performer to form an output video image for display on a video display.[; and]
[displaying the output video image on a video monitor.]

19. (Amended) A method as in claim 18, wherein the step of [compositing] removing removes the background image of the indicia image completely [includes removing a background of the downscaled and repositioned indicia image].